Amendments to the Claims:

Please cancel claims 1-4, 11, 13-17, 22-24, 28-30 and 59 without prejudice.

This listing of claims will replace all prior versions, and listings, of claims in the above-captioned application:

Listing of Claims:

1.–100. (canceled)

101. (new) A method of making a polymer nanocomposite comprising:

combining a polymer dispersion with a clay mineral dispersion to form a clay-polymer dispersion, wherein the polymer dispersion comprises a negatively charged polymer; and

adding a flocculating agent to the clay-polymer dispersion mixture to form the polymer nanocomposite, wherein the flocculating agent comprises a positively charged compound.

102. (new) The method of claim 101, wherein the polymer dispersion comprises less than 80% by weight of the negatively charged polymer.

103. (new) The method of claim 101, wherein the negatively charged polymer comprises styrene-butadiene latex.

104. (new) The method of claim 101, wherein the negatively charged polymer comprises latex.

105. (new) The method of claim 101, wherein the clay mineral dispersion comprises montmorillonite.

106. (new) The method of claim 101, wherein the clay mineral dispersion comprises bentonite.

107. (new) The method of claim 101, wherein the clay mineral dispersion comprises hectorite, saponite, attapulgite, beidellite, stevensite, sauconite, nontronite, Laponite, or sepiolite.

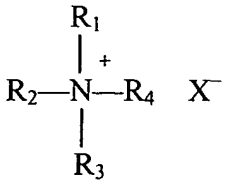
108. (new) The method of claim 101, wherein the clay mineral dispersion comprises from about 1 to about 10% by weight of the clay mineral.

109. (new) The method of claim 101, further comprising forming the clay mineral dispersion by subjecting a mixture of the clay mineral in a liquid carrier to a high shear process.

110. (new) The method of claim 101, wherein the clay-polymer dispersion comprises less than 30% by weight of clay mineral with respect to the weight of the negatively charged polymer in the clay-polymer dispersion.

111. (new) The method of claim 101, wherein the flocculating agent comprises a quaternary ammonium compound.

112. (new) The method of claim 101, wherein the flocculating agent comprises a quaternary ammonium compound having the structure:



wherein R_1, R_2, R_3, and R_4 are independently alkyl groups, aryl groups or arylalkyl groups, and wherein at least one of R_1, R_2, R_3, or R_4 is an aliphatic group derived from a naturally occurring oil.

113. (new) The method of claim 101, wherein the flocculating agent comprises between about 1% to about 10% by weight of the clay-polymer dispersion.

114. (new) The method of claim 101, wherein the flocculating agent comprises hydrotalcite.

115. (new) The method of claim 101, wherein the clay mineral dispersion comprises montmorillonite and wherein the flocculating agent comprises hydrotalcite.

116. (new) A polymer nanocomposite made by the method comprising:

combining a polymer dispersion with a clay mineral dispersion to form a clay-polymer dispersion, wherein the polymer dispersion comprises a negatively charged polymer; and

adding a flocculating agent to the clay-polymer dispersion mixture to form the polymer nanocomposite, wherein the flocculating agent comprises a positively charged compound.

117. (new) The polymer nanocomposite of claim 116, wherein the polymer dispersion comprises less than 80% by weight of the negatively charged polymer.

118. (new) The polymer nanocomposite of claim 116, wherein the negatively charged polymer comprises styrene-butadiene latex.

119. (new) The polymer nanocomposite of claim 116, wherein the negatively charged polymer comprises latex.

120. (new) The polymer nanocomposite of claim 116, wherein the clay mineral dispersion comprises montmorillonite.

121. (new) The polymer nanocomposite of claim 116, wherein the clay mineral dispersion comprises bentonite.

122. (new) The polymer nanocomposite of claim 116, wherein the clay mineral dispersion comprises hectorite, saponite, attapulgite, beidellite, stevensite, sauconite, nontronite, Laponite, or sepiolite.

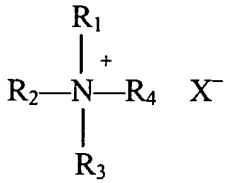
123. (new) The polymer nanocomposite of claim 116, wherein the clay mineral dispersion comprises from about 1 to about 10% by weight of the clay mineral.

124. (new) The polymer nanocomposite of claim 116, wherein the method further comprises forming the clay mineral dispersion by subjecting a mixture of the clay mineral in a liquid carrier to a high shear process.

125. (new) The polymer nanocomposite of claim 116, wherein the clay-polymer dispersion comprises less than 30% by weight of clay mineral with respect to the weight of the negatively charged polymer in the clay-polymer dispersion.

126. (new) The polymer nanocomposite of claim 116, wherein the flocculating agent comprises a quaternary ammonium compound.

127. (new) The polymer nanocomposite of claim 116, wherein the flocculating agent comprises a quaternary ammonium compound having the structure:



wherein R_1, R_2, R_3, and R_4 are independently alkyl groups, aryl groups or arylalkyl groups, and wherein at least one of R_1, R_2, R_3, or R_4 is an aliphatic group derived from a naturally occurring oil.

128. (new) The polymer nanocomposite of claim 116, wherein the flocculating agent comprises between about 1% to about 10% by weight of the clay-polymer dispersion.

129. (new) The polymer nanocomposite of claim 116, wherein the flocculating agent comprises hydrotalcite.

130. (new) The polymer nanocomposite of claim 116, wherein the mineral clay mineral dispersion comprises montmorillonite and wherein the flocculating agent comprises hydrotalcite.

131. (new) A method of making a polymer nanocomposite comprising:

combining a polymer dispersion with a clay mineral dispersion to form a clay-polymer dispersion; wherein the clay-polymer dispersion comprises less than 90% by weight of clay mineral with respect to the weight of the polymer in the clay-polymer dispersion; and

adding a flocculating agent to the clay-polymer dispersion mixture to form the polymer nanocomposite.

132. (new) The method of claim 131, wherein the polymer dispersion comprises latex.

133. (new) The method of claim 131, wherein the polymer dispersion comprises polyvinyl chloride, a chlorosulfonated polyethylene rubber, a fluoroeleastomer, or polyisoprene.

134. (new) The method of claim 131, wherein the polymer dispersion comprises less than 80% by weight of the polymer.

135. (new) The method of claim 131, wherein the clay mineral dispersion comprises montmorillonite.

136. (new) The method of claim 131, wherein the clay mineral dispersion comprises bentonite.

137. (new) The method of claim 131, wherein the clay mineral dispersion comprises hectorite, saponite, attapulgite, beidellite, stevensite, sauconite, nontronite, Laponite, or sepiolite.

138. (new) The method of claim 131, wherein the clay mineral dispersion comprises hydrotalcite.

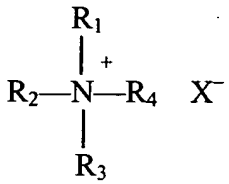
139. (new) The method of claim 131, wherein the clay mineral dispersion comprises from about 1 to about 10% by weight of the clay mineral.

140. (new) The method of claim 131, further comprising forming the clay mineral dispersion by subjecting a mixture of the clay mineral in a liquid carrier to a high shear process.

141. (new) The method of claim 131, wherein the clay-polymer dispersion comprises less than 30% by weight of clay mineral with respect to the weight of polymer in the clay-polymer dispersion.

142. (new) The method of claim 131, wherein the flocculating agent comprises a quaternary ammonium compound.

143. (new) The method of claim 131, wherein the flocculating agent comprises a quaternary ammonium compound having the structure:



wherein R_1, R_2, R_3, and R_4 are independently alkyl groups, aryl groups or arylalkyl groups, and wherein at least one of R_1, R_2, R_3, or R_4 is an aliphatic group derived from a naturally occurring oil.

144. (new) The method of claim 131, wherein the flocculating agent comprises between about 1% to about 10% by weight of the clay-polymer dispersion.

145. (new) The method of claim 131, wherein the flocculating agent comprises hydrotalcite.

146. (new) A polymer nanocomposite made by a method comprising:

combining a polymer dispersion with a clay mineral dispersion to form a clay-polymer dispersion; wherein the clay-polymer dispersion comprises less than 90% by weight of clay mineral with respect to the weight of the polymer in the clay-polymer dispersion; and

adding a flocculating agent to the clay-polymer dispersion mixture to form the polymer nanocomposite.

147. (new) The polymer nanocomposite of claim 146, wherein the polymer dispersion comprises latex.

148. (new) The polymer nanocomposite of claim 146, wherein the polymer dispersion

comprises polyvinyl chloride, a chlorosulfonated polyethylene rubber, a fluoroeleastomer, or polyisoprene.

149. (new) The polymer nanocomposite of claim 146, wherein the polymer dispersion comprises less than 80% by weight of the polymer.

150. (new) The polymer nanocomposite of claim 146, wherein the clay mineral dispersion comprises montmorillonite.

151. (new) The polymer nanocomposite of claim 146, wherein the clay mineral dispersion comprises bentonite.

152. (new) The polymer nanocomposite of claim 146, wherein the clay mineral dispersion comprises hectorite, saponite, attapulgite, beidellite, stevensite, sauconite, nontronite, Laponite, or sepiolite.

153. (new) The polymer nanocomposite of claim 146, wherein the clay mineral dispersion comprises hydrotalcite.

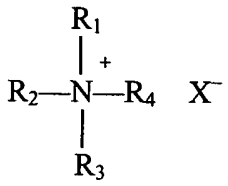
154. (new) The polymer nanocomposite of claim 146, wherein the clay mineral dispersion comprises from about 1 to about 10% by weight of the clay mineral.

155. (new) The polymer nanocomposite of claim 146, further comprising forming the clay mineral dispersion by subjecting a mixture of the clay mineral in a liquid carrier to a high shear process.

156. (new) The polymer nanocomposite of claim 146, wherein the clay-polymer dispersion comprises less than 30% by weight of clay mineral with respect to the weight of polymer in the clay-polymer dispersion.

157. (new) The polymer nanocomposite of claim 146, wherein the flocculating agent comprises a quaternary ammonium compound.

158. (new) The polymer nanocomposite of claim 146, wherein the flocculating agent comprises a quaternary ammonium compound having the structure:



wherein R_1, R_2, R_3, and R_4 are independently alkyl groups, aryl groups or arylalkyl groups, and wherein at least one of R_1, R_2, R_3, or R_4 is an aliphatic group derived from a naturally occurring oil.

159. (new) The polymer nanocomposite of claim 146, wherein the flocculating agent comprises between about 1% to about 10% by weight of the clay-polymer dispersion.

160. (new) The polymer nanocomposite of claim 146, wherein the flocculating agent comprises hydrotalcite.